

IN RE Application of:

Group Art Unit: 3641

Examiner: Miller, E.

24 Reply
Brief
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October 15, 2001
[October 14, 2001 = Sunday]

In response to the Examiner's Answer dated August 14, 2001, Appellants submit herewith this Reply Brief in triplicate as required by 37 C.F.R. §§ 1.192 and 1.193. If any fees are due in connection with the filing of this Reply Brief, please charge our Deposit Account No. 501324 and accept this paper as a petition for extension.

1. REAL PARTY IN INTEREST

Transfer of ownership in this application to Alliant Techsystems Inc. has occurred, and it is expected that appropriate assignment documents will be filed for recordation with the Assignment Branch of the U.S. Patent & Trademark Office in due course.

2. RESPONSE TO GROUNDS OF REJECTION

In his answer, the Examiner continues to premise the Section 102(b) rejection on *In re Thuau*, 135 F.2d 344, *In re Pearson*, 181 USPQ 641, and *In re Touminen*, 213 USPQ 89.

This “hornbook law” is not applicable here, since the language recited in claim 1 is not couched in “intended use” format. Rather, claim 1 recites physical attributes of its composition based on attributes it displays upon combustion. More specifically, claim 1 recites that the composition is formulated such that, when combusted, it generates *a mixture of gases suitable for use in deploying an air bag or balloon from the supplemental restraint system*.

3. REPLY TO EXAMINER’S RESPONSE TO ARGUMENTS

(a) The Doctrine of File Wrapper Estoppel is Not Applicable

The Examiner asserts that file wrapper estoppel prevents Appellants from relying on language expressly set forth in the claims. Appellants disagree.

First, Appellants are unaware of file wrapper estoppel being applied during prosecution, as the Examiner attempts to do so here.

Second, file wrapper estoppel traditionally is applied to prevent a patentee from unjustifiably broadening the scope of claim construction. This clearly is not the case here.

Third, the term “formulated” has been used to describe the ingredients from which the composition is made, as well as the solid state of the composition. However, formulated also has been used in the claim language for the purpose of conveying that the composition is suitable for generating gas for deploying an air bag or balloon from a supplemental restraint system. A person of ordinary skill in the art having reference to the specification would find this claim language as clear and concise.

(b) Neither Cook nor Hommel Teach Suitable Amounts of Complex

Claim 1 recites that (a) the solid gas generating composition is formulated for generating gas suitable for use in deploying an air bag or balloon from a supplemental restraint system, and (b) the complex, when combusted, generates a mixture of gases suitable for use in deploying an air bag or balloon from the supplemental restraint system is produced.

Although claim 1 does not explicitly recite numerical amounts of complex, it does functionally define the amount of complex that may be in the composition. In

particular, the amount of complex in the composition is selected to meet conditions (a) and (b) above. The specification provides adequate guidance to the skilled artisan to allow the artisan to practice the claimed invention.

As explained in the Appeal Brief, the high concentrations of ammonium nitrate and low concentrations of metal complexes called for by Cook and Hommel are unsuitable for the type of environment encountered by a supplemental restraint system. The recitation of ammonium nitrate and metal complexes in Cook and Hommel does not anticipate the claims or render the claims obvious. To the contrary, Cook and Hommel teach these ingredients, when used, are to be used in compositions having component concentrations outside the scope of the claimed invention, *i.e.*, conditions (a) and (b) would not be satisfied for the reasons explained in the Appeal Brief.

Finally, the Examiner's unexplained citation to the transition phrase "comprising" is irrelevant. The claims are open, inasmuch as they allow for the presence of additional ingredients. However, Cook and Hommel fail to teach appropriate amounts of the claimed ingredients for rendering the claims unpatentable. The use of the transition phrase "comprising" in the claims does not alter or negate the deficiencies of Cook and Hommel.

(c) *Appellant's Hinshaw et al., U.S. Patent No. 5,439,537, Provides Further Evidence of the Unsuitability of the Rausch Thermite Composition*

The Examiner points out that Appellant's U.S. Patent No. 5,439,537 to Hinshaw et al. discloses using a thermite composition as a gas generant. The Examiner takes the unexplained and unsupported step of exclaiming that because one thermite composition is suitable as a gas generant, all thermite compositions, including that of Rausch, must be suitable gas generants. According to the Examiner, to argue otherwise "would cast doubt on the validity [of the '537 patent]."

The Examiner's statement inaccurately portrays previous arguments of appellant and mischaracterizes the teachings of the '537 patent.

As explained in the specification of this application and in many issued U.S. patents, including the '537 patent, the gas generating composition of a supplemental restraint system must satisfy several requirements, including the production of gases that are not overly hot. Excessive heat generated by the gas can burn the vehicle occupant upon impacting a just deployed air bag. The '537 patent describes why most conventional thermite compositions face this drawback and do not meet other requirements for gas generants of secondary restraint systems:

Thermite is generally defined as a composition consisting of a mixture of finely divided oxidizable inorganic fuel, conventionally aluminum or an oxidizable metal, and a corresponding oxidizing agent. *Thermite compositions are conventionally used and designed to generate large quantities of intense heat without generating significant quantities of gas.* In that context, the most commonly used thermite compositions are based on finely divided aluminum metal and iron oxide.

One of the distinguishing characteristics of most conventional thermite compositions is that they are designed to produce little or no gaseous reaction products. While having some semblance to conventional thermite compositions, the compositions of the present invention are unique in that gaseous water vapor is the desired major gaseous reaction product and that it is produced in a sufficient amount and volume to be used to inflate an automobile air bag, or for a similar type of function generally performed by gas generating compositions.

Column 4, lines 13-31.

Thus, the '537 patent supports appellant's position that conventional thermite compositions, including that disclosed in Rausch, are unsuited as a gas generant of a supplemental restraint system. The thermite of Rausch would burn too intensely for a supplemental restraint system. The Rausch compound is typical of conventional thermite compositions described in the '537 patent, which is why its intended use is described as being that of a fuel, not as a gas generant.

(d) The Examiner's Unfairly and Unreasonably Characterizes Appellant's Arguments

At the paragraph bridging pages 5-6 of the Examiner's Answer, the Examiner attempts to draw into question appellant's previous arguments, opining that appellant was under a duty to admit all allegations it did not challenge.

The Examiner does not cite, and is unable to cite, any rule or regulation that requires applicant to admit that which it does not challenge. The Examiner's characterizations as to what "one might intuit" and statement that certain actions are "not well taken" are incorrect. Page 11, lines 16-35 of the specification states that the "preparation of metal nitrite or metal nitrate ammine complexes of the

present invention is described in the literature.” The specification also lists several literature references and provides their publication dates.

The Examiner goes to great length to weave into his Answer several colorful statements, such as “what is sauce for the goose, is sauce for the gander” (page 5, line 12) and “to leave hanging in the wind” (page 6, line 2). The context in which the Examiner has presented these statements and the imaginative (and misleading) backdrop that the Examiner has created to incorporate these statements into his Answer mar the record with inaccuracies and are not proper for these proceedings.

(e) *The Compositions of the Cited Art Are Not Formulated For Generating Gas Suitable for Deploying an Air Bag or Balloon of a Supplemental Restraint System*

The Examiner points out that individual components of the cited art constitute complexes that combust to generate water, nitrogen, and oxygen. However, the overall compositions of the cited art are not formulated for “generating gas suitable for use in deploying an air bag or balloon from a supplemental restraint system,” as expressly recited in claim 1. See Appeal Brief.

The Examiner attempts to distinguish *Ex parte Conner*, 215 U.S.P.Q. 384 (Pat. & Tr. Off. Bd. of Appeals 1981) based on a minor difference in facts. Specifically, the Examiner asserts that unlike the cited *Conner* case, “there is no styrene or analogous compound which will preclude suitability.”

Appellant respectfully submits that not only does this minor factual difference fail to distinguish *Conner*, but that it also undermines the Examiner's position.

The Examiner's Answer states that claim 1 fails to numerically quantify specific concentrations of ingredients and, therefore, concentrations should not be weighed in determining patentability of claim 1. Likewise, however, the claims in *Conner* did not explicitly preclude the use of styrene or analogous compounds. Nonetheless, the claims at issue in *Conner* were distinguished from the prior art because the prior art called for styrene or analogous compounds that rendered the prior art "unsuitable for application to the human skin."

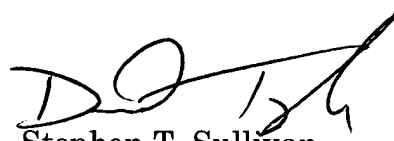
Appellant submits that the holding of *Conner* and *Ex parte Wittpenn*, 16 U.S.P.Q.2d 1730 (Bd. of Pat. Appeals & Inter. 1990) are applicable here and are dispositive of the patentability of claim 1. Although claim 1 does not quantify amounts of ingredients (in the same way that the *Conner* claims did not exclude certain ingredients), claim 1 does inherently preclude anything (*e.g.*, an ingredient or an amount of an ingredient) that would render a composition unsuitable for use in a supplemental restraint system.

4. CONCLUSION

For all the above-discussed reasons, it is clear that the inventions recited in Applicants' claims are patentable over the art of record. Accordingly, reversal of all remaining rejections and allowance of claims 1, 83-91, and 114-117 are respectfully requested.

Dated: October 15, 2001

Respectfully submitted,


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-- and --

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Date of Deposit October 15, 2001

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